SOLVAY MINERALS

August 7, 2003

Cortnie Morrell
WDEQ-Air Quality Division
122 W. 25th Street
Cheyenne, WY 82002

RE: Additional information for AP-0631

Dear Cortnie:

The purpose of this correspondence is to submit revised dispersion model results and response to questions concerning AP-0631. The permit application was submitted March 6, 2003, and is for a project to convert Calciners A & B from natural gas to coal-firing.

Three baghouse sources, AQD #10, 11, and 14, are currently permitted to operate 12 hours per day. Since submittal of the permit application, Solvay has realized these three coal-handling baghouse sources may need to operate more than 12 hours per day after conversion of the calciners to coal-firing. The ISC air dispersion model has been re-run with these sources operating 24 hours per day. A CD is included with this correspondence with the revised PM_{10} model inputs and outputs. Following is a table with the revised PM_{10} impacts compared with the Class II PSD Increment:

Averaging Time	Maximum Predictee Impact ($\mu g/m^3$)	Date	Receptor Location Easting (m)	Receptor Location Northing (m)	Class II PSD Increment ($\mu g/m^3$)
24-hour H2H	29.6	12/16/87	604,400	4,594,850	30
Maximum annual	9.4	1988	604,400	4,594,950	17

The revised results show compliance with the PM_{10} Class II Increment.

Appendix A of the Technical Support document submitted with AP-0631 provides engineering calculations for emission rates associated with the project. On page 2 of that Appendix, the table entitled "Potential Emissions" has listed the CO emission rate as 1,263.2 lb/hr, and that of VOC as 619.6 lb/hr. These rates have been calculated with the factors also listed on that page under "Emission Factors". Those emission factors have

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been rounded, so utilizing them will not result in the exact emission rates shown in the table. The non-rounded combustion factor for CO of 0.1923 lb/MMBtu is based on 5 lb/ton coal and 26 MMBtu/ton. The non-rounded process factor for CO of 3.707 lb/ton trona is based on 1482.8 lb/hr and 400 tph (see page 4 of Appendix A). The non-rounded process factor for VOC of 1.93325 lb/ton-trona is based on 773.3 lb/hr and 400 tph (see page 4 of Appendix A).

Hazardous Air Pollutants (HAPs) were addressed on page 26 and 27 in the Technical Support document. The HAPs addressed in the application are those increases associated with coal combustion. HAPs are also emitted from the calcination of trona. Since the gas-to-coal project will result in a 20% reduction of trona ore feed to Calciners A & B from 400 tph to 320 tpy, there will be a reduction of the trona-associated HAPs. The estimated HAP emissions, and reduction due to the reduced trona feed rate, are detailed in the table below.

	Proposed 320 tph	**Reduction 80 tph**
HAP Species	**pph**	**pph**
Benzene	8.91	2.23
1,3 Butadiene	6.04	1.51
Ethyl Benzene	1.36	0.34
2-Butanone	3.02	0.76
Hexane	2.85	0.71
Styrene	1.65	0.41
Toluene	4.47	1.12
Xylene	6.13	1.53
Formaldehyde	0.24	0.06
Acetaldehyde	0.21	0.05
Propionaldehyde	0.06	0.02
Acrolein	0.58	0.14
Acetone	0.19	0.05
Acetophenone	0.01	0.00
Biphenyl	0.02	0.00
Bis(2-Ethylhexl)phthalate	0.00	0.00
2-Chloroacetonphenone	0.00	0.00
3/4=Methylphenol	0.01	0.00
Cumene	0.00	0.00
Dibenzofuran	0.02	0.00
Di-n-Butylphthalate	0.01	0.00
N,N-Dimethylaniline	0.01	0.00
Naphthalene	0.12	0.03
Phenol	0.07	0.02
Total	**35.98**	**8.99**

If you have any questions, please feel free to contact me at (307) 872-6571.

Respectfully submitted,
SOLVAY MINERALS, INC

Dolly A. Potter
Environmental Services Supervisor

Enclosures

cc: Tony Hoyt w/o enclosures